REMARKS

With the present Amendment claims 1-2, 5-42, 44-46, 48-68 are now pending in the present application. The rejections under 35 U.S.C. 103 are respectfully traversed. However, in order to further the prosecution of this application, independent claims 1, 5, 6, 28, 29, 31, 32, 39, 40, 44, 45, 56, 57, 59, 61, 63, 64, 66, 67, 68 have been amended in order to further distinguish them from the cited art. Support for the claim amendments can be found in the specification and drawings, in particular in paragraphs 0074, 0090, 0121, 0151 and 0168-0172 of US 2003/0142629 (published version of the present application). No new matter has been added. Applicants believe that the present application as amended is now in condition for allowance of which prompt and favorable action is respectfully requested.

35 U.S. C. 103 Rejection

Claims 1 and 2 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Walding (US 6,031,845). Claims 32 and 33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Walding (US 6,031,845) and Gillespie (US 6,014,377). Claim 34 was rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Walding (US 6,031,845), Gillespie (US 6,014,377) and Gopalakrishnan (US 7,110,466). Claims 35-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Walding (US 6,031,845), Gillespie (US 6,014,377) and Numminen (US 6,687,499). Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US

6,680,913) in view of Walding (US 6,031,845) and Funk (US 6,766,164). Claims 6-8, 10-13 and 24-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Mawhinney (US 5,898,674) and Brady (US 3,922,508). Claims 29-31 and 39 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Mawhinney (US 5,898,674), Brady (US 3,922,508) and Engbersen (US 5,271,000). Claims 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Mawhinney (US 5,898,674), Brady (US 3,922,508) and Funk (US 6,766,164). Claims 40-44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Numminen (US 6,687,499), Oommen (US 6,799,203) and Tiedemann (US 5,802,105). Claims 45 and 56 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) in view of Tiedemann (US 5,802,105). Claim 49 was rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) and Tiedemann (US 5,802,105) in view of Numminen (US 6,687,499). Claims 50-53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) and Tiedemann (US 5,802,105) as applied to claim 45 above and further in view of Kobayashi (US 6,333,932). Claims 46-48 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913) and Tiedemann (US 5,802,105) as applied to claim 45 above and further in view of Ikeda (US 5,636,212). Claims 57 and 58 were rejected under 35 U.S.C. 103(a) as being unpatentable over Malmivirta et al. (US 6,680,913), Tiedemann (US 5,802,105), Kobayashi (US 6,333,932), Ikeda (US 5,636,212) and Sjoblom (US 2002/0009053). Claim 59 was rejected under 35 U.S.C. 103(a) as being

unpatentable over Malmivirta et al. (US 6,680,913) in view of Tiedemann (US

5,802,105). Claim 60 was rejected under 35 U.S.C. 103(a) as being unpatentable over

Malmivirta et al. (US 6,680,913) and Tiedemann (US 5,802,105) in view of Engbersen

(US 5,271,000). Claims 61-63, 65, 67 and 68 were rejected under 35 U.S.C. 103(a) as

being unpatentable over Malmivirta et al. (US 6,680,913) in view of Kobayashi (US

6,333,932),Ikeda (US 5,636,212) and Sjoblom (US 2002/0009053) and Brady (US

3,922,508). Claims 64 and 66 were rejected under 35 U.S.C. 103(a) as being

unpatentable over Malmivirta et al. (US 6,680,913) in view of Tiedemann (US

5,802,105) , Kobayashi (US 6,333,932), Sjoblom (US 2002/0009053).

The MPEP recited the standard to be applied in an issue of obviousness under 35

USC 103. Section 2143.03 of the MPEP states in part:

ALL CLAIM LIMITATIONS MUST BE CONSIDERED

"All words in a claim must be considered in judging the patentability of
that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165
USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious
under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.
In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The factual inquiries that are relevant in the determination of obviousness are

determining the scope and contents of the prior art, ascertaining the differences between

the prior art and the claims in issue, resolving the level of ordinary skill in the art, and

evaluating evidence of secondary consideration. KSR Int'l Co. v. Teleflex Inc., 550 U.S.

___, 2007 U.S. LEXIS 4745, at **4-5 (2007) (citing Graham v. John Deere Co. of

Kansas City, 383 U.S. 1, 17-18 (1966)). To establish a *prima facie* case of obviousness,

the prior art references "must teach or suggest all the claim limitations." M.P.E.P. §

2142. Moreover, the analysis in support of an obviousness rejection "should be made

explicit." KSR, 2007 U.S. LEXIS 4745, at **37. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Id. (citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The Office Action is 87 pages in length, cites 14 prior art references in various combinations and includes eighteen different 103 rejections. Rather than repeat the same explanations multiple times in reply to each of the eighteen different 103 rejections, Applicants have grouped the independent claims that recite the same or similar elements together for the purpose of explaining their distinction(s) against the recited prior art references.

Independent claims 1, 5, 6, 28, 29, 30, 31, 39, 61, 63, 67 and 68

As amended, each of the pending independent claims 1 and 5 recites the claim element of "wherein each loop back packet further comprises a record for each test packet correctly received during the observation interval." Independent claim 30 already recites the claim element of "further comprises a record for each test packet correctly received during the observation interval." As amended, each of the pending independent claims 6 and 28 recites the element of "comprising the identified parameter values for all test packets correctly received during the observation interval". Furthermore, each of independent pending claims 29, 31, 39, 61, 63, 67 and 68 recites the element of "includes a transmission source and a sequence number of every test packet correctly received during the observation interval," or a similarly phrased element. The amendments in the pending claims

are supported in the present Application (US 2003/0142629), for example, in paragraph 0090.

> "In an embodiment, <u>each FFAP [*sic*] Loop Back packet includes a record for each FTAP Test packet correctly received by the terminal during the associated observation interval. Each record includes various information for the associated FTAP Test packet such as, for example, the serving sector from which the FTAP Test packet was received, the sequence number</u> and length of the FTAP Test packet, and so on. The information in each record included in the FTAP Loop Back packets is used by the access network to derive various forward link performance metrics such as throughput and packet error rate, as described below." *Present application (US 2003/0142629), paragraph 0090 (emphasis added).*

The Office Action on page 35 admits that "Malmivirta does not explicitly teach a record for each test packet correctly received."

On Page 36, the Office Action states "Mawhinney in the similar field of endeavor teaches a <u>record</u> for each test packet correctly received (Figure 5 sequence number field, column 3 lines 38-53, column 11 lines 45-60, lines [sic] column 12 lines 1-15, column 4, lines 44-47)." The Office Action also cites the same sections of Mawhinney in the rejection of claim 29 for the element of "comprising <u>sequence number</u> for every covered test packets received." (Emphasis added.) Thus, the Office Action is equating the disclosure of a "record" with "sequence number" in Mawhinney.

As disclosed in paragraph 0090 of the present application, the sequence number is a <u>part</u> of the record for each correctly received FTAP packet. Thus it is improper to equate the "Figure 5 sequence number field" in Mawhinney to the "record for each test packet" as recited in pending claims. The sequence number is one part of the record for each test packet. The disclosure of a sequence number field in Mawhinney does not disclose the "record" as recited in the pending claims. That is, a subset (i.e., the

"sequence number field" in Mawhinney) does not disclose the set (i.e., the "record" as recited in the pending claims) of which it is a member. Furthermore, the cited paragraphs in Mawhinney discloses directly towards the sequence number being used specifically when sequence checking is required. "In keeping within the description of FIG. 5, a sequence number will typically be utilized for tests in which sequence checking is required." *Mawhinney (US 5,898,674), Col. 12, lines 8-10.*

The sequence number field, as disclosed in Mawhinney, appears to be a feature of the packets in both the forward link and reverse link of the diagnostic channel. In contrast, the pending claims recite that the loop back packet, transmitted on the reverse link, consisting of a record for each test packet correctly received. This asymmetry further supports that the sequence number disclose in Mawhinney is not the record as recited in the pending claims.

> "Referring now to FIG. 5, a preferred frame format for messages transmitted across the diagnostic channel is shown. As illustrated, the preferred frame format is of variable octet length, depending in part upon the type of test being executed. For example, whether the test is a connectivity test, a loopback test, or a pattern test, and further whether pattern or other information is being transmitted as a part of the message. The first two octets define the multiplexing header. The frame type, of octet 2, specifies that the present packet is a multiplexed packet. The address, of octet 2, specifies the address that uniquely identifies the reserved or dedicated diagnostic channel. A diagnostic header immediately follows the multiplexing header of octets 1 and 2, and comprises octets 3-10 (preferably). Elements included within the diagnostic header include the message type, sequence number, and timestamp. The message type is used to indicate the type and disposition of the present frame. For example, whether the test is a pattern test, a connectivity test, a loopback test, etc." *Mawhinney (US 5,898,674) Col. 11, lines 3-21 (emphasis added).*

Secondary cited reference Walding (US 6,031,845) does not make up for the deficiency in Malmivirta or Mawhinney. Walding also does not disclose a record for

each test packet correctly received. Instead, Walding is cited (according to the Office Action) for disclosing "signaling data being sent via auxiliary channel" as stated in the Office Action on page 6.

Secondary cited reference Brady (US 3,922,508) does not make up for the deficiency in Malmivirta or Mawhinney. In contrast, Brady is directed towards providing specific codes that trigger a loopback circuit in telephone line testing equipment. Since the invention in Brady is implemented in a pulse-based system, there is no disclosure regarding a loop back packet comprising a record for each successfully received test packet.

Secondary cited reference Kobayashi (US 6,333,932) does not make up for the deficiency in Malmivirta or Mawhinney. In contrast, Kobayasi discloses message packets generated by a loopback test control unit that consists of subscriber ID, station number and timestamp fields in the payload field, but there is no disclosure of the message packet comprising a record for each successfully received test packet.

> "When the test is activated, a test start request message packet is generated by a loopback test control unit 11 in the CPE 10, and the request packet is transferred as a common user packet over the network. The telephone number (DA) set in the level 3 header field in the test start request message packet is a spacial telephone number (specific DA) defined between the control unit and the network. ... The payload field of the test start request message packet stores the ID of the subscriber, station number of the loopback terminal station, time stamp, etc. The CLU-SUB 20 transmits these data to the CPR 40. According to the information, the CPR 40 transfers the test start request t the CLS-TRK 30 in the procedure followed in activating the inter-station loopback test so as to activate the intra-station loopback test from the subscriber." *Kobayasi (US 6,333,932), Col. 272, lines 6-12, lines 23-30.*

The other secondary references Funk (US 6,766,164), Engbersen (US 5,271,000), Sjoblom (US 2002/0009053) also do not make up for the deficiency in Malmivirta or

Mawhinney, either separately or in combination since they each do not disclose a record for each test packet correctly received. Funk is cited (according to the Office Action) because it "teaches test packets being formed for particular time interval" according to the Office Action on page 16. Engbersen is cited (according to the Office Action) because it "teaches … for detecting errors, the test information would include an input address indicating the source of the test packet, a sequence number defining the order in which the packet should arrive at the destination, time bits relating to the packet length and/or to the expected packet transmission delay, and a cyclic redundancy code which covers the entire contents of the test packet, including its control portion" according to the Office Action on page 34. Sjoblom is cited (according to the Office Action) because it "teaches identifying sequence number in test packets and forming test packets including the sequence number" according to the Office Action on page 64.

The distinctions made herein between the recited element of "record for each test packet," and the cited prior art references are equally applicable to the other recited elements of "a transmission source (i.e., serving sector) and a sequence number of each test packet" and "identified parameter values of each test packet" (e.g., sequence number, test packet length) found in the other independent claims as per paragraph 0090 of the present application *(US 2003/0142629)*.

Independent claims 40 and 44

As amended, each of pending independent claims 40 and 44 recites the elements of "receiving a third message to reset the first and second statistics" and "resetting the first and second statistics in response to receiving the third message," which are supported in the present Application, for example, in paragraph 0121.

27

"Initially, the access network sends an FTAPStatsClearRequest message to direct the terminal to clear the statistics collected at the terminal, at step 612. Upon receiving the message, terminal performs the FTAP Statistics Initialization procedure, clears the variables maintained for the requested statistics, and then responds with the FTAPStatsClearResponse message, at step 614. The access network can reset the variables at the terminal at any time by sending the FTAPStatsClearRequest message. Reception of an FTAPStatsClearResponse message from the terminal containing the same TransactionID value as that of the FTAPStatsClearRequest message indicates that the statistical variables at the terminal have been cleared." *Present application (US 2003/0142629), paragraph 0121 (emphasis added)*

The Office Action on page 40 admits that "Malmivirta does not explicitly teach ... receiving a first message requesting the first or second statistic, and sending a second message with the requested first or second statistic."

Secondary reference Numminen (US 6,687,499) does not make up for the deficiency in Malmivirta. Numminen does not disclose receiving a third message to reset the first and second statistics, and resetting the first and second statistics in response to receiving the third message as recited in the amended independent claims 40 and 44. In contrast, Numminen discloses using an instruction or message to terminate the testing phase, but does not disclose resetting the statistics during the testing phase as is recited in the pending claims.

"At the end of the test the test equipment may instruct the mobile station to release the test loop by sending a special command which can be called OPEN_Multi-slot_loop_CMD. The command need not identify which particular test loop is meant if it has been specified that the mobile station can only have one active test loop at a time." *Numminen (US 6,687,499), Col. 8, lines 51-56 (emphasis added).*

Secondary reference Oommen (US 6,799,203) also does not make up for the deficiency in Malmivirta. In contrast, Oommen discloses statistical information gathering and management operations such as reset, suspend etc [see Oommen, Col. 4,

lines 18-26], but does not explicitly disclose resetting statistics in response to a received third message as recited in the pending claims.

Secondary reference Tiedemann (US 5,802,105) also does not make up for the deficiency in Malmivirta. Tiedemann is cited (according to the Office Action) because it "teaches collecting the first statistic occurs while performing testing function" according to the Office Action on page 43.

Independent claims 45, 56, 57, 64 and 66

As amended, each of pending independent claims 45, 56, 57, 64 and 66 recites the element of "select [selecting] rates for transmitting the test packets within the range of rates based on a rate selection scheme in which the selected rates are cycled between a maximum rate and a minimum rate," which is supported in the present Application, for example, in paragraphs 0168-0172.

> "For the first RTAP Test packet, the terminal sets TargetRate to MinRate and further sets SelectedRate to the smaller of TargetRate and MACMaxRate, For each subsequent RTAP Test packet, the terminal selects the rate for the packet based on the following procedure:
>   TargetRate=TargetRate+1,
>   If (TargetRate>MaxRate) then TargetRate=MinRate, and
>   SelectedRate=Min(TargetRate,MAC-MaxRate),
> The above procedure cycles through all supported rates, up to and limited by the MaxRate specified by the RTAPParameterAssignment message and the MAC-MaxRate allowed by the MAC protocol." *Present application (US 2003/0142629), paragraphs 0168-0172 (emphasis added).*

The Office Action on page 66 admits that "Malmivirta does not explicitly teach selecting rates for the test packets based on a set of rules for rate selection scheme."

Secondary reference Tiedemann (US 5,802,105) does not make up for the deficiency in Malmivirta. Tiedemann does not disclose cycling through the available

rates between a specified maximum and minimum rates. In contrast, Tiedemann

discloses selecting the rate on the basis of a Markov process.

> "In accordance with one aspect of the invention, voice communication is simulated by <u>selecting the rate at which consecutive packets of test data are transmitted on the basis of a four-state, second order Markov process</u> in which the current Markov "state" is a function of the data rates of the preceding two test packets. It is understood, however, that in alternate embodiments Markov processes of differing order and/or state may be employed. In the case of a second order Markov process, an equivalent representation using a sixteen-state, first order Markov chain may be utilized." *Tiedemann (US 5,802,105), Col. 8, lines 51-60 (emphasis added).*

Secondary reference Ikeda (US 5,636,212) also does not make up for the

deficiency in Malmivirta. In contrast, Ikeda (US 5,636,212) discloses a method of

allocating bandwidth between maximum and minimum value to accommodate the current

burst transmission, and does not disclose cycling between the maximum and minimum

values as recited in the pending claims.

> "In accordance with the present invention, there is provided a burst bandwidth reservation method for use with an ATM network. The method includes the steps of connecting a source terminal via a plurality of nodes to a destination terminal, setting a path between an initiating node and a terminating node in a call set-up phase, <u>reserving for each link on the path, prior to transmission of a burst from the source terminal, band-widths to send the burst therethrough, thereby transferring the burst</u>, releasing the reserved band-widths after the burst is completely transmitted, repeatedly conducting by the source terminal, at a failure of the band-width reservation on the path, a band-width re-reservation until band-widths are successfully reserved, and counting by the source terminal the number of successively failed attempts of the band-width reservation, thereby minimizing a request band-width at the band-width re-allocation for the burst transmission in accordance with the number of successively failed attempts." *Ikeda (US 5,636,212), Col. 2, lines 11-28 (emphasis added).*

Secondary reference Kobayashi (US 6,333,932) also does not make up for the

deficiency in Malmivirta. Instead, the Office Action on page 53-54 states the features

disclosed in Kobayashi.

Secondary reference Sjoblom (US 2002/0009053) also does not make up for the deficiency in Malmivirta. Sjoblom is cited in the Office Action on page 56 because (according to the Office Action) it "teaches identifying sequence number in test packets and forming test packets including the sequence number."

Independent claims 32

As amended, independent claim 32 recites the element of "transmitting an indication of configuration completion within a predetermined time interval of having received the first message," which is supported in the present Application, for example, in paragraph 0074.

> "Upon completion of the test configurations specified by the FTAPParameterAssignment message and within $T_{FTAPConfig}$ (e.g., two) seconds of receiving the message, the terminal sends an FTAPParameterComplete message with the TransactionID field set to the same value as that received in the TransactionID field of the FTAPParameterAssignment message, at step 518. The TransactionID field is used for identifying the specific transaction being referred to by the message." *Present application (US 2003/0142629), paragraph 0074 (emphasis added).*

On pages 7-11 of the Office Action, claims 32 and 33 are rejected over Malmivirta in view of Walding and Gillespie. In particular, the Office Action cites Gillespie (Col. 5, lines 55-58) as discloses testing auxiliary control channels. Applicants respectfully disagree. In contrast, Gillespie discloses a cell site controller injecting data onto the control channel in a general framework, but does not explicitly disclose transmitting an indication of completing configuration within a predetermined time of having received the first message comprising test settings.

> "Typical wireless networks 14 include multiple adjoining cells each of which includes at least one cell site controller 41 which operates under the direction of MSC 40. The cell site controller 41 manages each of the radio channels at the site, supervises calls, turns the radio transmitter and receivers on and off, injects data onto the control and user channels, and

performs diagnostic tests on the cell site equipment. Cells may includes multiple radio transmitters and radio receivers." *Gillespie (US 6,014,377), Col. 5, lines 51-59.*

Secondary reference Walding does not make up for the deficiency of Gillespie. Walding is cited (according to the Office Action) because it "teaches the overhead channel (i.e., auxiliary channel) is provided for carrying control information (i.e., signaling packets) used to establish and maintain the downlink and uplink communication paths" according to the Office Action on page 10.

Malmivirta (US 6,680,913) does not make up for the deficiency of Gillespie. In contrast, Malmivirta discloses several configuration methods for loopback tests [see Malmivirta (US 6,680,913), Col. 9-10, lines 41-38], but does not disclose the element of requiring an indication on configuration completion within a predetermined time interval as recited in the pending claims.

Independent claim 59

As amended, independent claim 59 recites the element of "receiving an indication of configuration completion within a predetermined time interval on the reverse traffic channel, wherein the configuration is based on the test settings," which is supported in the present Application, for example, in paragraph 0151.

> "Upon completion of the RTAP test configurations specified by the RTAPParameterAssignment message and within $T_{RTAPConfig}$ (e.g., two) seconds of receiving the message, the terminal sends an RTAPParameterComplete message with the TransactionID field set to the same value as that received in the corresponding RTAPParameterAssignment message, at step 820." *Present application (US 2003/0142629), paragraph 0151.*

The Office Action on pages 56-59 rejected claim 59 over Malmivirta in view of Tiedemann. As noted in the explanation regarding claim 32, the element of receiving or

transmitting "an indication of configuration completion within a predetermined time interval," is not disclosed in either of the cited references Malmivirta or Tiedemann.

Thus, the cited references, either taken separately or in combination, do not disclose, teach, suggest or make obvious all of the features of the pending claims and the 103 rejections based thereon should be withdrawn accordingly.

CONCLUSION

For the reasons stated above, the prior art references cited do not disclose, teach, suggest or make obvious the pending claims. Thus, Applicants respectfully request withdrawal of the 35 U.S.C.103 rejections based thereon.

ALLOWABLE SUBJECT MATTER

Applicants thank the Examiner for indicating the allowability of claims 14-23, 54 and 55.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. The Commissioner is authorized to charge Deposit Account No. 17-0026 for the fees owed for the Request for Continued Examination (RCE). Applicants do not believe that any other fees are due regarding this amendment. However, if any other fees are required, please charge Deposit Account No. 17-0026.

Applicants encourage the Examiner to telephone the Applicants' attorney should any

issues remain.

Respectfully submitted,

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